Docket No.: 043888-0267

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	:	Customer Number: 20277
Tsutomu OHZUKU, et al.	:	Confirmation Number: 9492
Application No.: 10/629,815	:	Group Art Unit: 1795
Filed: July 30, 2003	:	Examiner: LEE, Cynthia K.

For: POSITIVE ELECTRODE ACTIVE MATERIAL AND NON-AQUEOUS ELECTROLYTE SECONDARY BATTERY CONTAINING THE SAME

Declaration Under 37 C.F.R. § 1.132

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

I, Dr. Hiroshi Yoshizawa, declare as follows:

1. I received a doctorate of Engineering from the Graduate School of Engineering, Osaka City University.

2. My field of specialty is lithium ion secondary batteries.

3. Since 1987, I have been employed by Panasonic Corporation.

4. I have been working in the field of research and development of lithium ion secondary batteries for the past 13 years.

5. I am a coinventor of U.S. Patent Application Serial No. 10/629,815, POSITIVE ELECTRODE ACTIVE MATERIAL AND NON-AQUEOUS ELECTROLYTE SECONDARY BATTERY CONTAINING THE SAME, filed July 30, 2003 (the present invention).

Application No.: 10/629,815

6. I have read and am familiar with the disclosure of the above-captioned patent application. I have read and am familiar with Ohzuku et al., *Layered Lithium Insertion Material of $LiCo_{1/3}Ni_{1/3}Mn_{1/3}O_2$ for Lithium-Ion Batteries* (Chemistry Letters, CL-010390, Vol. 30 (2001), No. 7, pp. 642-43) and Ohzuku et al., *Layered Lithium Insertion Material of $LiN_{1/2}Mn_{1/2}O_2$ for Lithium-Ion Batteries: a Possible Alternative to $LiCoO_2$ for Advanced Lithium-Ion Batteries* (Chemistry Letters, CL-010410, Vol. 30 (2001), No. 8, pp. 744-45).

7. At my direction and under my supervision positive active electrode material according to Example 1-2 of the present invention was fabricated.

8. At my direction and under my supervision positive active electrode material according to *Layered Lithium Insertion Material of $LiCo_{1/3}Ni_{1/3}Mn_{1/3}O_2$ for Lithium-Ion Batteries* (Chemistry Letters, CL-010390) was fabricated from $LiOH{\cdot}H_2O$, $CoCO_3$, and nickel manganese hydroxide in the manner described on page 642, left column, 17th line from the bottom, et seq. $CoCO_3$, $LiOH \cdot H_2O$, and a Ni-Mn coprecipitated hydroxide (MX-004-01, Tanaka Chemical Co. Ltd.) were mixed with a mortar and pestle, and the mixture was formed into a pellet with a diameter of 23 mm and a thickness of 5 mm. The pellet was then baked at 1000°C in air for 15 hours, followed by crushing with a mortar and pestle.

9. High resolution x-ray diffraction measurements of the Miller Index (003) of several samples according to the present invention and CL-010390 were performed at the Spring-8 (Super Photon Ring-8 GeV) facility. Spring-8 is the largest third-generation synchrotron radiation facility in the world and provides the most powerful synchrotron radiation currently available (See Exhibit A).

10. When observed at high resolution x-ray diffraction, the Miller Index (003) of the CL-010390 material shows a separate peak due to $LiCoO_2$ segregated from the bulk positive

electrode active material (Exhibit C). On the other hand, the positive electrode active material of the present invention, does not show a $LiCoO_2$ peak at the Miller Index (003) (Exhibit B).

11. The lack of the $LiCoO_2$ peak in the present invention sample shows that the positive electrode active material of the present invention, is uniformly dispersed at the atomic level, while the CL-010390 material is not uniformly dispersed at the atomic level.

12. I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further, that these statements are made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of this application or any patent issuing therefrom.

November 16, 2009
Date

/Hiroshi Yoshizawa/
Hiroshi Yoshizawa

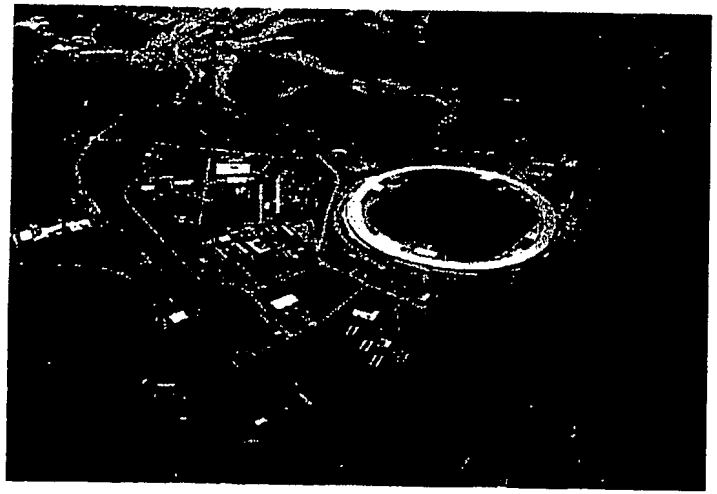
EXHIBIT A

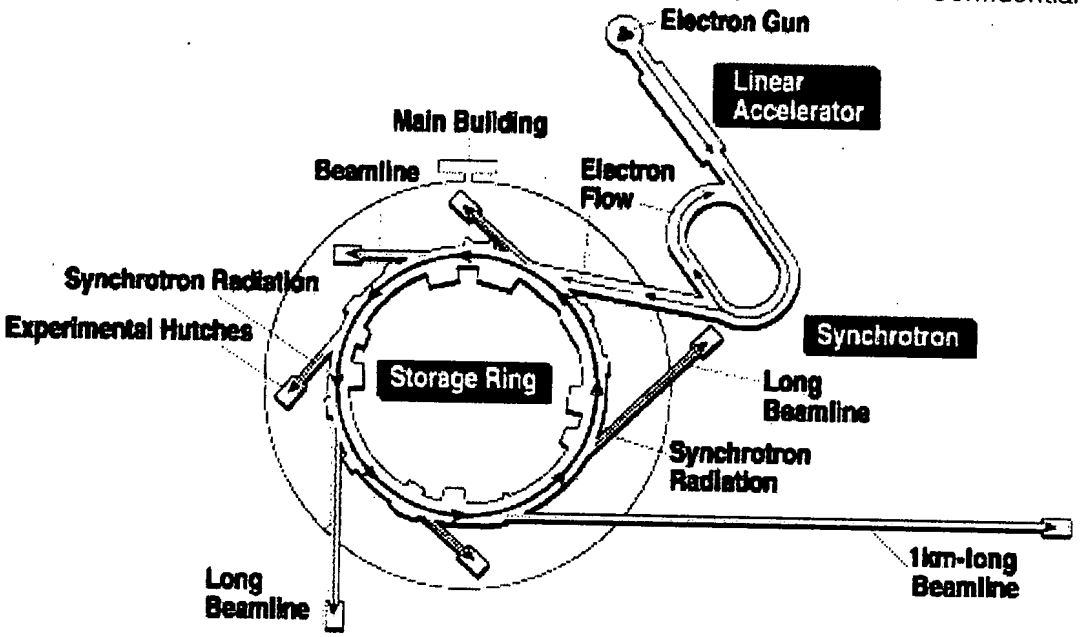
Spring-8 (Super Photon Ring-8 GeV)

Confidential
Until:2010.3.31

Panasonic
ideas for life

A Bird's eye view of SPring-8 taken on September 16, 2005





SPring-8, which is the largest third-generation synchrotron radiation facility in the world, provides the most powerful synchrotron radiation currently available.

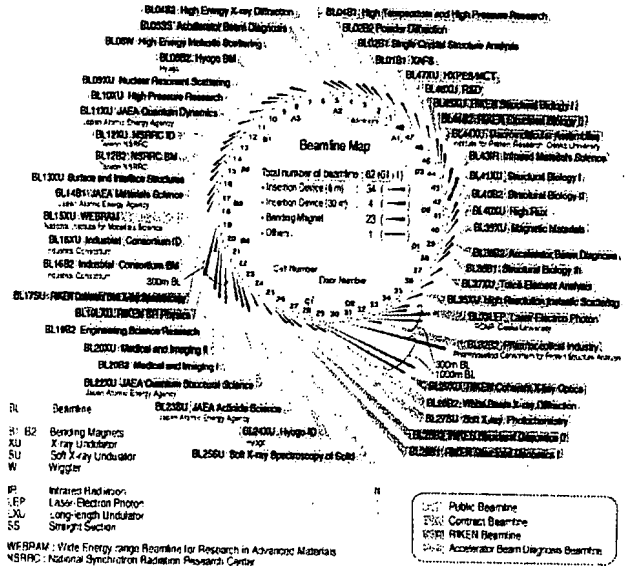


EXHIBIT B

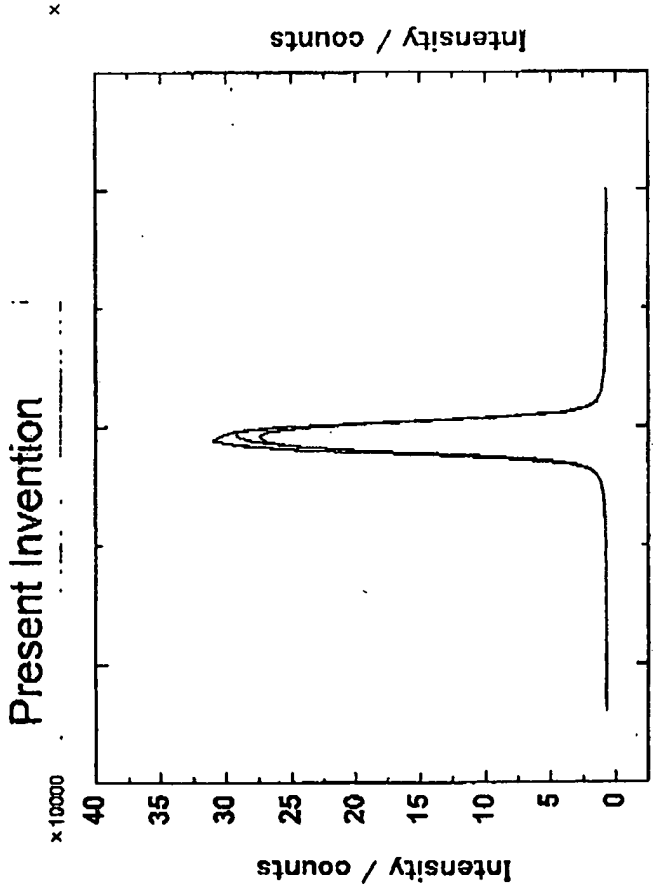
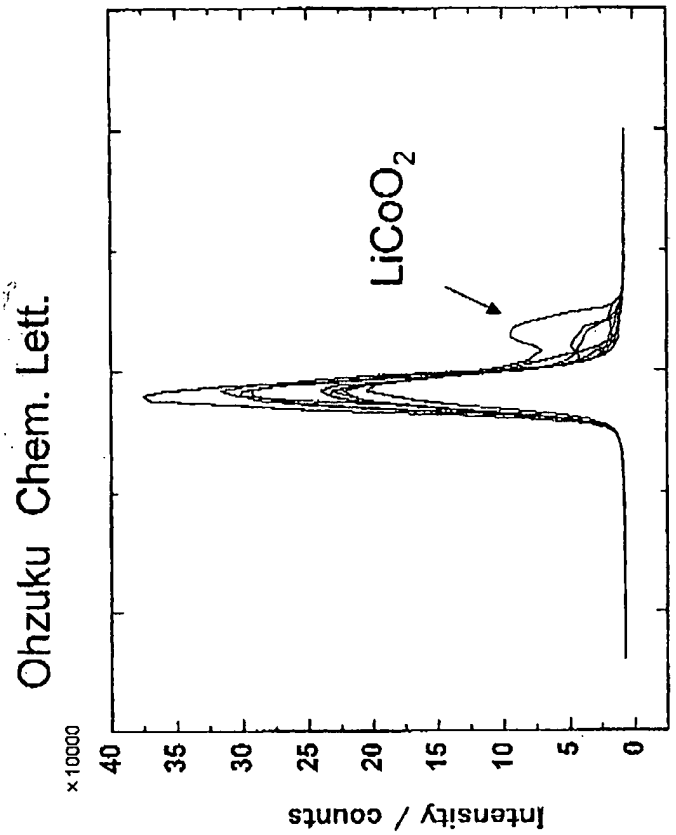


EXHIBIT C



λ = 1.2398 Å
1 × 1mm beam size